

1 47. The apparatus of claim 35 wherein the data replacement routine comprises  
2 a multi-process two-dimensional matrix transpose operation.

1 48. The apparatus of claim 35 wherein the multi-process two-dimensional  
2 matrix transpose operation is one of an AllToAll operation, an AllToAllV operation,  
3 and an AllToAllW operation, as defined by the Message Passing Interface 2 (MPI-2)  
4 standard.

1 49. The apparatus of claim 35 wherein the computer program further  
2 comprises:  
3 a storing routine for storing the hogel portion matrix in at least one file on the  
4 storage medium, the storage medium being one of a magnetic storage  
5 medium, an electronic storage medium, and an optical storage medium.

1 50. A computer implemented method of processing image data for use in  
2 holographic stereograms:  
3 providing a plurality of image data sets;  
4 loading at least a portion of one of the plurality of image data sets into a  
5 memory, the at least a portion of one of the plurality of image data sets  
6 including a plurality of pixel values;  
7 copying a first one of the plurality of pixel values from the at least a portion of  
8 one of the plurality of image data sets to a first hogel portion in a hogel  
9 buffer in the memory;  
10 copying a second one of the plurality of pixel values from the at least a portion  
11 of one of the plurality of image data sets to a second hogel portion in  
12 the hogel buffer in the memory/

1 51. The computer-implemented method of claim 50 wherein the providing a  
2 plurality of image data sets further comprises:  
3 providing a computer graphics model of a scene;  
4 generating a plurality of sets of light-field data from the computer graphics  
5 model of a scene using an isotropic parameterization of a light field,  
6 each of the plurality of sets of light-field data corresponding to a  
7 respective one of the plurality of image data sets.

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